

IDENTIFYING EGRET SOURCES

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This project was awarded funding from the CGRO program to support ROSAT and ground-based observations of unidentified sources from data obtained by the EGRET instrument on the Compton Gamma-Ray Observatory.

The critical items in the project are the individual ROSAT observations that are used to cover the 99% error circle of the unidentified EGRET source. Each error circle is a degree or larger in diameter. Each ROSAT field is about 30' in diameter. Hence, a number (>4) of ROSAT pointings must be obtained for each EGRET source to cover the field. The scheduling of ROSAT observations is carried out to maximize the efficiency of the total schedule. As a result, each pointing is broken into one or more sub-pointings of various exposure times.

This project was awarded ROSAT observing time for 4 unidentified EGRET sources, summarized in the table. The column headings are defined as follows: "Coverings" = number of observations to cover the error circle; "SubPtg" = total number of sub-pointings to observe all of the coverings; "Rec'd" = number of individual sub-pointings received to date; "CompFlds" = number of individual coverings for which the requested complete exposure has been received. Processing of the data can not occur until a complete exposure has been accumulated for each covering.

Summary Table of ROSAT Pointings

Source	<u>Coverings</u>	<u>SubPtg</u>	<u>Rec'd</u>	<u>CompCovs</u>
EG1443-6040	9	>17	8	1
EG1239+4410	8	8	8	8
EG1742-2250	8	12	12	8
EG1811-2339	5	>9	5	2

The data for EG1239+4410 have been processed. A total of 23 X-ray sources with a signal-to-noise (S/N) of >2.5 have been identified over the complete EGRET error circle. Three of these sources have a S/N \geq 4.0 and will become the highest-priority objects for optical follow-up. Optical follow-ups are in progress.

The demise of ROSAT means that EG1443-6040 and EG1811-2339 will never be completed. We are considering a small request to Chandra to close the gaps.

